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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,390	02/16/2001	Robert Allan Bourne	RD 28106	2384

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EXAMINER

SHIPSIDES, GEOFFREY P

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 03/27/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/785,390

Applicant(s)

BOURNE ET AL.

Examiner

Geoffrey P. Shippides

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 17-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to low birefringence and low stress transparent or translucent thermoplastic film, classified in class 428, subclass 220.
 - II. Claims 11-16, drawn to a continuous film extrusion process, classified in class 264, subclass 210.2.
 - III. Claims 17-24, drawn to a finishing roll, classified in class 425, subclass 363.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process, for example, a process that uses finishing rolls of a single material could make the thermoplastic film as claimed.
3. Inventions III and I are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this

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case the product as claimed can be made by another and materially different apparatus, for example a finishing roll of a single material could make the thermoplastic film as claimed.

4. Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process, for example, the apparatus as claimed could be used to finish non-extruded material.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Bob Walter on 3-17-03 a provisional election was made with traverse to prosecute the invention of Group II, claims 11-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-10 and 17-24 are withdrawn from further consideration by the examiner; 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

8. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

9. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

10. The abstract of the disclosure is objected to because the instant abstract is in the form of two paragraphs. Correction is required. See MPEP § 608.01(b).

11. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A PROCESS FOR PRODUCING LOW
BIREFRINGENCE PLASTIC FILMS AND SHEETS.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 11 recites the use of the method to produce a transparent or translucent thermoplastic film for optical media applications that has a low birefringence, yet claim 14 further limits claim 11 to the production of opaque films for non-optical media. The admission teaches that birefringence is not measurable in opaque films (Page 1, line 10 of the instant specification). As such it is the examiner's position that it is impossible to produce an opaque film and determine if it has a low or any birefringence. It is also the examiner's position that the retardation value of an opaque film is not determinable as the retardation value is defined by (birefringence times thickness). Appropriate corrective action is required.

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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15. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With further regard to claim 14, it is noted that while claim 11 recites the use of the method to produce a transparent or translucent thermoplastic film for optical media applications, yet claim 14 further limits claim 11 to the production of opaque films for non-optical media, therefore it is unclear if which limitations apply in claim 14 as these limitations are contradictory (as a film can not be both opaque and translucent or transparent). It is advised to amend the claims so that claim 14 no longer has conflicting limitations. Claim 14 as been examined without consideration to the limitation of "a transparent or translucent thermoplastic film for optical media applications".

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,756,760 (McBride) in view of U.S. Patent No. 5,240,666 (Schnyder et al.), U.S. Patent No. 5,286,436 (Funk et al.), and admitted prior art (Admission).

With regard to claim 11, McBride teaches a process for finishing extruded plastic sheets (title), which involves the extruding of a plastic sheet (or film) (Column 2, line 51;

Column 1, line 4; Figure 1, ref. No. 10), the passing of the film through two opposing calendaring rolls (Figure 1, ref. Nos. 18 and 16) wherein at least one calendaring roll is a finishing roll (Figure 1, ref. No. 18), and subsequently cooling the hot film (Column 2, line 59). McBride teaches that the finishing roll is a multi component structure (Figure 2), comprising of an inner metal shell (Column 2, line 59), an intermediate resilient covering over the inner shell (Column 2, line 62), and a hard outer shell of metal (Figure 2, ref. No. 30).

McBride does not teach that the outer shell of metal is formed of two layers. Schnyder et al., however, teaches a similar roller apparatus that includes two layers of metal laminated on to an inner rubber layer (Column 2, lines 35-48). Schnyder et al. used two layers of metal in order to obtain a high polish due to the outermost layer of material while also using the thermal conductivity of the adjacent layer in order to more efficiently cool the roller apparatus. It would have been obvious to one having ordinary skill in the art at the time of invention to modify the apparatus of McBride to include a two outer layers of metal as taught by Schnyder et al. in order to have an apparatus that efficiently cools when performing the process as taught by McBride.

McBride does not specifically teach the use of the process to produce transparent or translucent thermoplastic films for optical media nor a retardation value of less than about 100 nanometers. It is noted that the Admission teaches that the retardation value is equal to the birefringence times thickness (Abstract, lines 10-11 of the instant application). Funk et al. teaches the use of a similar process to produce thermoplastic films for optical data storage. It is noted that the films as taught by Funk

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et al. are intrinsically transparent or translucent, as opaque films do not have a birefringence. Funk et al. teaches a birefringence of less than 50 nm (Column 3, line 69). It is the examiner's position that birefringence as taught by Funk et al. constitutes the retardation measurement as instantly defined. It would have been obvious to one having ordinary skill in the art at the time of invention to use the process of McBride in the production of thermoplastic films for optical data storage as taught by Funk et al. in order to produce a superior polish on to such a thermoplastic film. It would have been further obvious to one having ordinary skill in the art at the time of invention to produce such a plastic film with the birefringence (or retardation) value as taught by Funk et al. so that the film would be usable for optical media.

McBride also does not specifically teach that the inner core is made of steel. McBride teaches that it is made of solid metal, but does not teach a specific metal. It is well known in the art that steel is a commonly used metal in the production of machinery. It would have been obvious to one having ordinary skill in the art at the time of invention to use a steel inner core in the apparatus as taught by McBride in order to have a strong and long lasting polishing roller.

McBride does not specifically teach a roughness. McBride is silent with respect to the roughness of the extruded film. Funk et al. teaches a surface roughness of less than 25 nm (~ 1 micro inch). It would have been obvious to one having ordinary skill in the art at the time of invention to produce an extruded thermoplastic film as taught by Funk et al. with the surface roughness as taught by Funk et al. with the use of the

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improved roller in the process as taught by McBride in order improve the quality of the product as taught by Funk et al.

With regard to claim 12, McBride teaches a film thickness in the order of 0.0075 inches thick (Column 1, lines 35-36). Funk et al. teaches a film thickness of less than 1 mm (or 0.04 inches) (Column 3, line 63).

With regard to claim 13, McBride does not specifically teach a roughness. McBride is silent with respect to the roughness of the extruded film. Funk et al. teaches a surface roughness of less than 25 nm (~ 1 micro inch). It would have been obvious to one having ordinary skill in the art at the time of invention to produce an extruded thermoplastic film as taught by Funk et al. with the surface roughness as taught by Funk et al. with the use of the improved roller in the process as taught by McBride in order improve the quality of the product as taught by Funk et al.

With regard to claim 15, McBride teaches the use of two calendaring rolls, but specifically only finishing roll. It would have been obvious to one having ordinary skill in the art at the time of invention to use two such finishing rolls in order to produce an extrudate that has the optimal qualities on both sides of the extrudate.

With regard to claim 16, McBride does not specifically teach a roughness. McBride is silent with respect to the roughness of the extruded film. Funk et al. teaches a surface roughness of less than 25 nm (~ 1 micro inch). It would have been obvious to one having ordinary skill in the art at the time of invention to produce an extruded thermoplastic film as taught by Funk et al. with the surface roughness as taught by Funk

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et al. on both sides with the use of the improved roller in the process as taught by McBride on both sides in order to produce an improved product.

With regard to claim 14, McBride also does not specifically teach the production of an opaque film by the process as taught by McBride. McBride teaches the use of this method to produce plastic sheet material frequently used by the greeting card industry (Column 1, lines 3-5). Admission, however, teaches that low stress opaque film is greatly desired in various industries (Page 10, lines 10-12 of the instant specification). It would have been obvious to one having ordinary skill in the art at the time of invention to also produce opaque smooth films by the method as taught by McBride in view of Schnyder et al. and Funk et al. in order to provide such desired films as taught by the instant Admission.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 3,387,348 (Kilgallon), U.S. Patent No. 5,952,017 (Nishida et al.), U.S. Patent No. 3,449,548 (Adamek et al.), U.S. Patent No. 2,291,005 (Strang), and U.S. Patent No. 4,791,275 (Lee et al.) are cited as art of interest to show the current state of the art at the time of invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey P. Shippides whose telephone number is 703-306-0311. The examiner can normally be reached on Monday - Friday 9 AM till 5 PM.

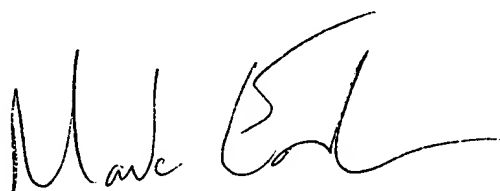
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D Crispino can be reached on 703-308-3853. The fax phone

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numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Geoffrey P. Shipsides/gps
March 23, 2003



MARK EASHOO, PH.D
PRIMARY EXAMINER

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23/Mar/03